

Jun. 28. 2010 6:05PM Kubovcik and Kubovcik

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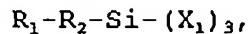
JUN 28 2010

PATENT APPLN. NO. 10/552,737  
RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT

PATENT

IN THE CLAIMS:

1. (currently amended) A chemical compound of the general formula



wherein

$X_1$  is a leaving group,

$R_2$  is a cycloalkyl having from 3 to 16 carbon atoms, an aryl having from 5 to 18 carbon atoms or a polycyclic alkyl group having from 7 to 16 carbon atoms,

and

$R_1$  is a substituent of  $R_2$  selected from alkyl groups having from 1 to 4 carbon atoms, alkenyl groups having from 2 to 5 carbon atoms, alkynyl groups having from 2 to 5 carbon atoms, and aromatic groups having 5 or 6 carbon atoms, each of said groups being optionally substituted, and Cl and F, with the proviso that the compound is not 4-fluorobenzyl trichlorosilane.

2 - 9. (canceled)

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10. (currently amended) A poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain cross-linking groups and -R<sub>1</sub>-R<sub>2</sub> bound to from 5 % to 50 % of the silicon atoms in the Si-O backbone, wherein R<sub>2</sub> is an aromatic group having 6 carbon atoms and R<sub>1</sub> is a substituent at position 4 of R<sub>2</sub>, or R<sub>1</sub>-R<sub>2</sub> is selected from the group consisting of pentafluorophenylmethyl, 4-trifluoromethyltetrafluorophenylmethyl and pentafluorophenylethyl.

11 - 28. (canceled)

29. (currently amended) A poly(organo siloxane) compound comprising a repeating Si-O backbone, -R<sub>1</sub>-R<sub>2</sub> bound to from 25% to 50% of the silicon atoms in the Si-O backbone, wherein R<sub>2</sub> is an aromatic group having 6 carbon atoms and R<sub>1</sub> is a substituent at position 4 of R<sub>2</sub>, or R<sub>1</sub>-R<sub>2</sub> is selected from the group consisting of pentafluorophenylmethyl, 4-trifluoromethyltetrafluorophenylmethyl and pentafluorophenylethyl, and R<sub>3</sub> is bound to from 5% to 50% of the silicon atoms, wherein R<sub>3</sub> is an alkenyl group having from 2 to 5 carbon atoms, acrylic group or epoxy group.

30 - 40. (canceled)

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41. (original) An integrated circuit having a layer with areas of an electrically conductive first material and an electrically insulating second material, wherein the second material is a poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R<sub>1</sub>-R<sub>2</sub> bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R<sub>2</sub> is an aromatic group having 6 carbon atoms and R<sub>1</sub> is a substituent at position 4 of R<sub>2</sub>.

42 ~ 56. (canceled)

57. (original) A method of making a chemical compound of the formula R<sub>1</sub>-R<sub>2</sub>-Si-(X<sub>2</sub>)<sub>3</sub>, wherein X<sub>2</sub> is a halogen, R<sub>2</sub> is an aromatic group having 5 to 18 carbon atoms, a cycloalkyl having from 3 to 16 carbon atoms, or a polycyclic alkyl group having from 7 to 16 carbon atoms, and R<sub>1</sub> is a substituent, in particular at position 4 of R<sub>2</sub>, R<sub>1</sub> being selected from the group consisting of alkyl groups having from 1 to 4 carbon atoms, alkenyl groups having from 2 to 5 carbon atoms, and OH groups, comprising:

- reacting a compound of the formula R<sub>1</sub>-R<sub>2</sub>-Br, wherein R<sub>1</sub> and R<sub>2</sub> have the same meaning as above, with Mg and with a compound of the formula Si-(OR<sub>3</sub>)<sub>4</sub>, wherein R<sub>3</sub> is an

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alkoxy group having from 1 to 3 carbon atoms, to form a compound of the formula  $R_1-R_2-Si-(OR_3)_3$ , wherein  $R_1$ ,  $R_2$  and  $R_3$  have the same meaning as above;

- reacting the thus obtained compound of the formula  $R_1-R_2-Si-(OR_3)_3$ , with a halogenating agent capable of replacing, preferably each,  $R_3$  with a halogen substantially without affecting the rest of the compound of formula  $R_1-R_2-Si-(OR_3)_3$ , to produce a compound of the formula  $R_1-R_2-SiX_2$ , wherein  $R_1$ ,  $R_2$  and  $X_2$  have the same meaning as above, and
- recovering the thus obtained compound.

58. (canceled)

59. (original) A chemical compound of the formula  $R_1-R_2-Si-(X_1)_3$ , wherein  $X_1$  is a halogen, acyloxy, alkoxy or OH group,  $R_2$  is an organic polycyclic or bridged ring structure with Si bound to carbon position 1, and  $R_1$  is a substituent at position 3 or higher of  $R_2$  selected from an alkyl group having from 1 or more carbons atoms, an alkenyl, an alkynyl, an acrylate, an aryl, an alcohol, OH, H, D, Cl or F.

60 - 67. (canceled)

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68. (original) A poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R1-R2 bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is polycyclic or bridged ring structure and R1 is a substituent at position 4 of R2 selected from an alkyl chain having from 1 to 4 carbons, H, D, F or OH.

69 - 84. (canceled)

85. (original) A poly(organo siloxane) compound comprising a repeating Si-O backbone, -R1-R2 bound to from 25% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is a polycyclic or bridged ring structure and R1 is a substituent at position 4 of R2 selected from H, D, F, OH, an alkyl group having from 1 to 4 carbon atoms, and an alkenyl group having from 2 to 5 carbon atoms, and further comprising R3 bound to from 5% to 50% of the silicon atoms, wherein R3 is an alkenyl group having from 2 to 5 carbon atoms, acrylic group, aryl group or epoxy group.

86 - 98. (canceled)

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99. (original) An integrated circuit having a layer with areas of an electrically conductive first material and an electrically insulating second material, wherein the second material is a poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R1-R2 bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is a polycyclic or bridged ring structure and R1 is a substituent at position 4 of R2 selected from H, D, F, OH, an alkyl group having from 1 to 4 carbon atoms, and an alkenyl group having from 2 to 5 carbon atoms.

100 - 107. (canceled)

108. (original) A chemical compound of the formula R1-R2-Si-(X1)3, wherein X1 is a halogen, acyloxy, alkoxy or OH group, R2 is an aromatic group having 8 carbon atoms and R1 is a substituent at position 5 of R2 selected from an alkyl group having from 1 to 4 carbon atoms, an alkenyl group having from 2 to 5 carbon atoms, an alkynyl group having from 2 to 5 carbon atoms, Cl or F.

109 - 112. (canceled)

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113. (original) A poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R1-R2 bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is an aromatic group having 8 carbon atoms and R1 is a substituent at position 5 of R2.

114 - 121. (canceled)

122. (currently amended) A poly(organo siloxane) compound comprising a repeating Si-O backbone, -R1-R2 bound to from 25% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is an aromatic group having 8 carbon atoms and R1 is a substituent at position 5 of R2 ~~(again this could be drawn out for clarity)~~, and R3 bound to from 5% to 50% of the silicon atoms, wherein R3 is an alkenyl group having from 2 to 5 carbon atoms, acrylic group or epoxy group.

123 - 126. (canceled)

127. (original) An integrated circuit having a layer with areas of an electrically conductive first material and an electrically insulating second material, wherein the second

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material is a poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R1-R2 bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is an aromatic group having 8 carbon atoms and R1 is a substituent at position 5 of R2.

128 - 133. (canceled)

134. (original) A chemical compound of the formula R1-R2-Si-(X1)3, wherein X1 is a halogen, acyloxy, alkoxy or OH group, R2 is an aromatic group having 10 carbon atoms and R1 is a substituent at position 6 of R2 selected from an alkyl group having from 1 to 4 carbon atoms, an alkenyl group having from 2 to 5 carbon atoms, an alkynyl group having from 2 to 5 carbon atoms, Cl or F.

135 - 138. (canceled)

139. (original) A poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R1-R2 bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is an aromatic group having 10 carbon atoms and R1 is a substituent at position 6 of R2.

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140 - 147. (canceled)

148. (original) A poly(organo siloxane) compound comprising a repeating Si-O backbone, -R1-R2 bound to from 25% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is an aromatic group having 10 carbon atoms and R1 is a substituent at position 6 of R2, and R3 bound to from 5% to 50% of the silicon atoms, wherein R3 is an alkenyl group having from 2 to 5 carbon atoms, acrylic group or epoxy group.

149 - 152. (canceled)

153. (original) An integrated circuit having a layer with areas of an electrically conductive first material and an electrically insulating second material, wherein the second material is a poly(organo siloxane) compound comprising a repeating Si-O backbone, carbon chain crosslinking groups and -R1-R2 bound to from 5% to 50% of the silicon atoms in the Si-O backbone, wherein R2 is an aromatic group having 10 carbon atoms and R1 is a substituent at position 6 of R2.

154 - 159. (canceled)

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160. (original) A method for making a chemical compound of the formula R<sub>1</sub>-R<sub>2</sub>-Si-(X<sub>1</sub>)<sub>3</sub>, wherein X<sub>1</sub> is a halogen or alkoxy group, R<sub>2</sub> is an aromatic group having 10 carbon atoms and R<sub>1</sub> is a substituent at position 6 of R<sub>2</sub>, R<sub>1</sub> being selected from an alkyl group having from 1 to 4 carbon atoms, an alkenyl group having from 2 to 5 carbon atoms, or OH, comprising:

reacting R<sub>1</sub>-R<sub>2</sub>-Br with Mg and Si-(OR<sub>3</sub>)<sub>4</sub> to form R<sub>1</sub>-R<sub>2</sub>-Si-(OR<sub>3</sub>)<sub>3</sub> + BrMgOR, where R<sub>1</sub> is selected from an alkyl group having from 1 to 4 carbon atoms, an alkenyl having from 2 to 5 carbon atoms, R<sub>2</sub> is an aromatic or non-aromatic ring structure having from 5 to 7 carbon atoms, and R<sub>3</sub> is an alkoxy group having from 1 to 3 carbon atoms;

reacting R<sub>1</sub>-R<sub>2</sub>-Si-(OR<sub>3</sub>)<sub>3</sub> with 3 SO<sub>2</sub>Cl<sub>2</sub> in the presence of C<sub>5</sub>H<sub>5</sub>N-HCl to yield R<sub>1</sub>-R<sub>2</sub>-SiCl<sub>3</sub> + 3 SO<sub>2</sub> + 3 EtCl.

161 - 163. (canceled)

164. (original) A thin film comprising a composition obtained by hydrolyzing

- a monomeric silicon compound having at least one hydrocarbyl radical, containing an unsaturated carbon-to-

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carbon bond, and at least one hydrolyzable group attached to the silicon atom of the compound with

- another monomeric silicon compound having at least one aryl group and at least one hydrolyzable group attached to the silicon atom of the compound

to form a siloxane material.

165 - 166. (canceled)

167. (new) A chemical compound selected from the group consisting of:

3,5,7-trifluoroadamantyl trichlorosilane,  
3,5,7-trifluoromethyladamantyl trichlorosilane,  
5-trifluoromethylcycloocta-1,3,7,7-tetraene trichlorosilane,  
pentafluorophenylmethyl trichlorosilane,  
4-trifluoromethyl-2,3,5,6-tetrafluorophenylmethyl trichlorosilane,  
pentafluoronorbornyl trichlorosilane,  
3-trifluoromethyl-4-(methyl)phenyl trichlorosilane,  
pentafluorophenylethyl trichlorosilane,  
norbornyl trichlorosilane,  
3,4,5-trimethylphenyl trichlorosilane,  
adamantyl trichlorosilane,

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adamantylphenyl trichlorosilane,  
3,5-bis(trifluoromethyl)phenyl trichlorosilane, and  
4-(trifluoromethyl)phenyl trichlorosilane.